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ABSTRACT

A study explored whether "typical" children (i.e., those who have not been identified as language-delayed but who have a low level of phonological awareness) differ in aspects of oral language and orthographic processing skills from those children with higher phonological awareness. Subjects were 17 children (ranging in age from 3 years 10 months to 5 years) identified as having high phonological awareness and 24 children having low phonological awareness. All children were typically developing in other domains and were randomly selected from private and public preschool classes in one county in the midwestern United States. After selection, the children were assessed in three pre-literacy measures and were videotaped during three different play scenarios. Results indicated that significant differences existed between the high and low phonological awareness groups that centered primarily around the development of print awareness tasks rather than the other variables involving oral language, play, and home environment. Findings represent a first step in answering the question of why some apparently typically developing children are later identified as having reading and writing difficulties. (Contains eight references and a table of data.) (RS)

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Language and Literacy Skills of Young Children with High and Low Phonological Awareness

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There is a body of research suggesting that a major difference between good and poor beginning readers lies in the extent of their awareness of the sounds of language and the relationships between these sounds and the way in which they are symbolically represented in print (Catts, 1989). Children with identified language disabilities are considered to be especially at risk for early academic failure in reading and may later be reclassified by schools as learning disabled (Snyder, 1984). There are many children, however, who appear to have language and literacy skills that are within the typical range who later have difficulty learning to read. One indicator of potential difficulties in these children is their lack of phonological awareness; that is, the children may not be aware of the relationship between the sounds of language and the way in which these sounds are represented by letters (Adams, 1991). Whether varying levels of phonological awareness in "typically developing" young children is a major predictor of later reading difficulty has yet to be determined. There may be other evidence of language or literacy differences between children with high and low phonological awareness. Moreover, a combination of characteristics, including oral language and orthographic processing problems, home environment factors, and quality of symbolic play together may help to make the prediction of potential reading problems possible. If predictions

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could be made during the preschool years, the possibility of early experiences that could enhance language and literacy development for this often overlooked "typical" population might prevent later reading difficulties. One part of this problem explored by this study is whether "typical" children (i.e., those who have not been identified as language delayed but who have a low level of phonological awareness) differ in aspects of oral language and orthographic processing skills from those children with higher phonological awareness.

Method

Subjects

One hundred children ranging in age from 3 years 10 months to 5 years were prescreened for phonological awareness level and placed into high and low groups based on their performance. The screening consisted of measures of sound categorization, sound elision, and rapid naming of letters/numbers/colors. An audiological screening to rule out hearing problems and a standardized language test (PLS-3) to identify those children who were within normal language development range were also conducted. Although the overall study contains three groups of preschoolers, two "typical" and one "language impaired" group, this study focused only on the two groups of "typical" children: the High Phonological Awareness group (HA) (N=17), and the Low Phonological Awareness group (LA) (N=26). All the children were typically developing in other domains and were randomly selected from private and public preschool

classes in one county in the midwest. No significant differences were found between the groups for sex ratio or age.

Procedures

After selection, the children were assessed on three pre-literacy measures, including the Concepts about Print (CAPT, Clay, 1979), the Test of Early Written Language (TEWL, Hresko, 1988), and the Test of Early Reading Ability (TERA-2, Reid et al., 1989). A language sample was also collected and coded for conversational moves (pragmatics), types of words used (semantics), and mean length of utterance (syntax). The children played with a graduate student in speech-language pathology for three different play scenarios which varied in structure and object abstractness. One hundred utterances were taken from each segment and analyzed. A symbolic play-based observational assessment was also collected. Forty minutes of child play activity for each child were videotaped during the free play period in the preschool programs. The proportion of total play time spent in literacy related play was coded. A home environment instrument (Preschool Reading Environment Scale, PRES) was administered via a telephone interview to one parent or the primary caretaker of each subject. The PRES (adapted by Stevens, 1991) is a 42-item multiple choice questionnaire designed to ascertain the home environment of the child and the relationship between parent and child concerning education and reading.

Analysis of Data

A one-way ANOVA was done to test the hypothesis of group differences, with the dependent variables being scores on the CAPT, TEWL, TERA-2, PRES, symbolic play, and oral language abilities.

Results/Discussion

Table 1 presents means and standard deviations of the two groups on all of the measures and indicates where differences occurred. There were significant differences between the HA and LA groups on the CAPT $F(1,41) = 6.12$, $p<.05$; TEWL $F(1,41) = 6.76$, $p<.01$; and TERA-2 $F(1,41) = 25.26$, $p<.001$. The groups did not significantly differ on the environmental, symbolic play, or oral language measures.

Some of the questions on the TERA-2 include phonological components, therefore, it is not surprising that there was a difference between the two groups on phonological awareness skills. The other measures, however, do not have high phonological components and may therefore be potential indicators of other factors that are relevant for determining early literacy problems.

A follow-up was done on the children who completed kindergarten last year. Significant differences still existed between the groups on the CAPT, and TERA-2. All the children were now able to write their full name and the alphabet. A longitudinal study of language and literacy development continues.

Results of this study indicate that significant differences between the high and low phonological awareness groups centered primarily around the development of print awareness tasks rather

than the other variables involving oral language, play, and home environment. The print awareness tasks involved measures of the children's awareness of the conventions of working with print and books, beginning writing skills, and early literacy skills such as the identification of letters of the alphabet, signs, and words.

Educational Implications:

The important question to be answered is whether those children who were in the LA group will have "caught up" in subsequent years or whether their initially lower phonological and language/literacy awareness levels are precursors to later reading difficulty. If these assessment measures show a predictive capacity, then the educational implications are extensive. Methods are available to teach phonological awareness, print awareness, rhyming, and emerging literacy skills (alphabet, sight words, writing name). These methods have been used to effectively with children who have identified language disabilities (see Jenkins & Bowen, 1994, for review). These methods could also help those "typical" children who have less obvious delays that may impact their ability to learn to read and write in the primary grades. This study is a first step in answering the question of why some apparently typically developing children are later identified as having reading and writing difficulties.

Table 1. Group Means (and Standard Deviations) of low and high phonological awareness groups on literacy assessments, oral language sample, symbolic play analysis, and environmental factors.

Measures	Group Low	High	Group Differences
Concepts About Print Test	4.16(1.7)	5.82 (2.8)	*
Test of Early Written Language	1.96 (1.8)	3.59 (2.3)	**
Test of Early Reading Abilities-2	7.39 (3.1)	15.29 (7.1)	***
Oral Language	47.33 (.97)	47.53 (1.1)	n.s.
Symbolic Play	49.59 (20.8)	52.08 (21.2)	n.s.
Environment Total	85.24 (10.7)	79.44 (17.8)	n.s.

* $p<.05$
** $p<.01$
*** $p<.001$

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